AMENDMENTS TO THE SPECIFICATION:

Please delete the paragraph bridging pages 9 and 10, and substitute therefor the following new paragraph:

-- The first embodiment of the present invention will be explained with reference to the plasma etching apparatus shown in FIG. 1. FIG. 1 is an explanatory view showing the outline of the structure of the plasma etching apparatus to which the processing method according to the present invention is applied. A processing chamber 1 of the plasma etching apparatus according to the first embodiment comprises a side wall 2 of the processing chamber, a shower plate 3 made of quartz, a substrate-mounting electrode 4, an evacuation system 7, an antenna 10, and so on. The plasma etching apparatus further comprises a quartz plate 5, a vacuum gauge 6, a high-frequency power supply 8, a matching circuit 9, a dielectric 11, an antenna cover 12, coils 13, 14, 15, a yoke 16, a high frequency power supply 18~~19~~, a matching circuit 19, a heater 20, and O-rings 21 and 22. On the substrate-mounting electrode 4, a substrate 17 such as a silicon wafer to be processed is mounted and fixed thereto. --

Please delete the paragraph bridging pages 29 and 30, and substitute therefor the following new paragraph:

-- FIG. 6 shows an overall structure of an inductively-coupled plasma processing apparatus. In the present apparatus, electromagnetic waves are supplied from a high-frequency power supply 301 of 13.56 MHz via an impedance matching network 302, a loop antenna 303 and an entrance window 305 into a vacuum container 309. The antenna is covered with a shield 304. Plasma 310 is generated in the vacuum container 309 by inductive coupling from the loop antenna.

A bias power of 12 MHz is applied to a wafer holder 307, and a wafer 306 is processed. In the present apparatus, the vacuum container 309 is formed by providing an alumite treatment to the aluminum material surface, and the alumite surface functions as an earth. It is also possible to provide an Al/alumite inner cylinder to cover the inner wall of the container. If wafers are etched using fluorine gas in this apparatus, deposits 113~~309~~ occur, the main components of which are Al and F, after a certain number of wafers have been processed. These deposits can be removed in the same manner as in embodiment 2, but if the frequency of the bias power is varied, the required power to achieve the same Si wafer etching rate is varied. With a bias frequency of 12 MHz, the power should range between 300 W and 1200 W in order to suppress earth chipping and to supply Si from the wafers, to effectively remove the aluminum fluoride deposited on the entrance window 305~~309~~. In order to generate plasma, an output of 1 kW from the high-frequency power supply 301 was supplied to carry out a discharge of 2 Pa chlorine gas. --

Please delete the paragraph on page 30, lines 17-25, and substitute therefor the following new paragraph:

-- The use of mixed gas containing Cl_2 and N_2 enables aluminum fluoride to be removed in forms of $AlCl_x$ and NF_3. By performing cleaning with chlorine while~~whle~~ supplying Ge from a Ge wafer, the aluminum fluoride can be removed in forms of $AlCl_x$ and GeF_4. The use of mixed gas containing Cl_2 and SO_2 enables aluminum fluoride to be removed in forms of $AlCl_x$ and SF_6. The use of Cl_2 and CO_2 enables aluminum fluoride to be removed in forms of $AlCl_x$ and CF_4. The use of Cl_2 and H_2 or HCl~~HCL~~ enables aluminum fluoride to be removed in forms of $AlCl_x$ and HF. --

AMENDMENTS TO THE DRAWINGS:

Please delete the sheet of original drawings showing Figs. 5 and 6, and substitute therefor the Replacement Sheet of Figs. 5 and 6 enclosed, as an Appendix hereto, Figs. 5 and 6 as on this Replacement Sheet showing deposits 113, as described on page 29 of Applicants' specification as presently amended. Noting the paragraph bridging pages 29 and 30 of Applicants' specification, it is respectfully submitted that Figs. 5 and 6 on the enclosed Replacement Sheet do not add new matter to the application.